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THE CAPITAL IMPROVEMENTS PROGRAM:

The City of Boston's Capital Improvements Program is designed to meet the facility and service needs of the residents of Boston. It is a comprehensive package of essential new construction, alterations and renovation projects which have been developed through a complex process of cross evaluation by City departments and neighborhood organizations.

This report describes how the plans evolve and provides an overview of Boston's Capital Improvements Program for the next decade.

A REPORT

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Responsibility For The Program

The development and implementation of the ongoing Capital Improvements Program is primarily the responsibility of three City departments: Public Facilities, Parks and Recreation, and Public Works. The Public Facilities Department was created in 1966 to plan a Capital Improvements Program and to carry out the construction and maintenance of Boston's public facilities (exclusive of school building maintenance) in compliance with this Program. The building of parks and other recreational facilities is shared between the Public Facilities Department and the Parks and Recreation Department by mutual agreement, while the Public Works Department is responsible for the construction of streets, sidewalks, sewer and water lines and City-owned vehicular and pedestrian lighting.

The Public Facilities Department is assigned responsibility for developing a Ten Year Capital Improvements Program, and for coordinating the annual work programs submitted by each Department. The Boston Redevelopment Authority oversees improvements in Urban Renewal areas, and develops long range planning recommendations for all Boston neighborhoods.

The creation of a new department to guide the City's Capital Improvements Program reflected a growing recognition in the mid-1960's of the critical need to revitalize Boston's physical plant. With the exception of City Hall and the Hynes Auditorium, the previous two decades had produced little major municipal construction: less than $20 million had been spent yearly, much of it concentrated on the massive Boston Redevelopment Authority renewal programs downtown. Since 1968 yearly expenditures on schools, parks and other needed facilities have increased by more than 250%.

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Since 1968 the major thrust of capital improvements has shifted away from the Central Business District, and to Boston's traditional residential neighborhoods. Most of Boston's neighborhoods were originally independent, and they have retained their distinctive character while offering the overall City great resources of vitality and stability. Urban renewal programs designed to revitalize downtown areas offered little help to many of the neighborhoods that were showing the effects of neglect. The City Administration perceived that maintaining the quality of life in these neighborhoods was critical to Boston's survival, and the development of a responsive Capital Improvements Program became top priority.

The Capital Improvements Program has developed major improvements in every neighborhood in the City, including 20 new schools, 7 new libraries and 88 park projects. Each of these was planned in cooperation with interested community groups, and they receive intensive use.

The response to Boston's Program in the financial community has been encouraging: Boston city bonds, which are used to finance most municipal improvements, received an upgraded rating for the first time in fourteen years. This reflects a growing confidence in Boston's Capital Improvements Program and will enable the City to save over $280,000 in interest payments on bonds to be issued this year.

Development Of The Program

Within the framework of the Ten Year Capital Improvements Program, proposals for an annual Capital Improvements Program are submitted to Public Facilities by each City department and the Boston Redevelopment Authority. Some departments request loans for programs or projects that they will carry out, while others request that projects be done for them by Public Facilities.

The Public Facilities staff reviews each proposal from two perspectives: both to determine how projects affect each other and what impact they will have on the neighborhood, and to judge the fiscal feasibility of the proposal.

Through the Little City Hall in each neighborhood, the Office of Public Service gathers information for Public Facilities on neighborhood needs and priorities, and the review by Public Facilities utilizes this local input, as well as the more comprehensive and long range views developed by professional planners.

The budgetary review determines the City's ability to finance projects, calculates the debt service they will incur and predicts their impact on the city's property tax rate. This last calculation is especially important in a city that must rely on property taxation for 70% of its revenue while over 50% of all property is tax exempt.

Upon completion of reviews, project proposals may be sent back to the operating departments for revisions, and, if necessary, are re-submitted to Public Facilities for a final review.

The capital improvements budget compiled by Public Facilities is coordinated with the operating budget through the Administrative Services Division, and is submitted as a recommendation to the Mayor for his implementation. If he concurs, he submits an appropriations package to the nine member City Council which appropriates all funds to be spent by the city, and authorizes loans to meet appropriations, transfers from special accounts and tax orders. The Council may withhold approval from part or all of the Capital Improvements Program, but it cannot initiate additions to the program.

Once City Council approves appropriations to finance the Capital Improvements Program, the appropriate departments—Public Facilities, Public Works and Parks and Recreation—implement the program. If subsequent state agency approvals are needed before funds can be expended, Public Facilities usually obtains these. Bonds are issued from time to time as needed to replenish the cash flow in the Treasury, and to balance accounts at the end of the fiscal year.

Schools

More new school facilities have been built by the Public Facilities Department in the past six years than in any other comparable period of time in the history of the Boston school system. School loan orders totaling more than $263 million have been passed since 1968 in addition to funds of $66 million voted between 1962 and 1967, financing the construction of 16 elementary schools, 1 middle school, 2 high schools, a new Boston Business School, a central school warehouse and annexes to three other schools. This massive building program has permitted the closing of thirty archaic schools since 1963, some over a century old.

The resurgence of school construction has been highlighted by the Community School concept and a new approach to school design and construction called the Boston Standard Component System Program (BOSTCO). **Community Schools encourage intensive use of the facilities in non-school hours by all members of the local community and BOSTCO enables schools to be designed and built in record time, at a significant dollar savings.**

Ground was broken for four schools in January, 1974 and six more schools will begin construction by the end of the year, including the new 2,500 student Campus High School.

Boston also has plans underway for the Occupation Resources Center (ORC), a new approach to occupational-vocational education designed to offer courses to all Boston high school students in the 10th, 11th, and 12th grades. Students will enroll in the ORC courses for one or perhaps two days weekly, or for a block of several consecutive weeks, while they retain their primary enrollments at their home high school. ORC courses will include exploratory work in "clusters of occupations," mini-courses in key skills and specific occupational training courses. Working relationships will be established with local business and industry for supplementary on-the-job training. Because the ORC is not strictly a vocational training school and is designed to break down barriers between vocational and academic education, it is estimated that 60-80% of all high school students will participate in its programs.

(The school will handle 1,800-2,100 students at a time.) Courses will also be open to post-high school students.

Both the ORC and Campus High will be located within a 36-acre Secondary Educational Complex in Lower Roxbury-Madison Park. This will provide a central location for their City-wide student bodies and will permit shared use of many administrative, recreational, and educational facilities.

A new central kitchen was opened in 1973 enabling the City to deliver hot lunches daily to school children. Food is processed, cooked, packaged, frozen, and stored in a renovated one-story building—formerly a private automobile dealership—in Dorchester. Eventually the kitchen will provide lunches to children in all public schools, and will allow great savings by minimizing the kitchen equipment needed in each school.

Libraries

The main thrust of library improvements has been to replace outdated and inefficient branch libraries with modern, attractive and conveniently-located neighborhood facilities. Consideration is given to special community needs, as in the Roxbury Civic Center Library (about to begin construction) which will include a community meeting room, space for a coffee shop and an African book section. The Roxbury Little City Hall is being included in the same building for better service to local residents. This major regional library also will back up other branches in this central section of Boston.

The Public Facilities Department has built six new neighborhood libraries and a major addition to the downtown library in Copley Square.

The addition, designed by Philip Johnson, opened in 1972, adjacent to the eighty year old landmark central library. The buildings are linked architecturally and functionally and together provide the keystone services of the library system. Some 3 million books are housed in the new building, including a circulating and non-circulating record collection, a picture collection, and special collections for children and young adults. Special attention is given people with reading handicaps (large type books) and foreign language needs. The addition provides some 500,000 square feet of space and has conference facilities as well as a large lecture hall.

Public Safety and Law Enforcement

New Police and Fire Department facilities have been constructed by the Public Facilities Department throughout the City to replace outdated buildings and to help provide more efficient and effective services. Five fire stations and four police stations have been opened since 1968, including the award-winning renovation of the Back Bay Fire Station, and plans are under way for six more fire department facilities.

One of these projects, Battery Wharf Fire Station, will transform an abandoned waterfront coal bin into a new home for both the harbor and the local land fire companies. The renovated structure will also allow 12,000 square feet for commercial office space, turning a useless eyesore into an attractive building that is both a needed new public facility and an addition to the City's tax roll.

The Roxbury Civic Center Courthouse replaces an outdated, 130 year old building and houses six courtrooms and judicial research library facilities. The new courthouse is part of a $5 million civic center complex in the historic center of Dudley Station, including a police station and the Roxbury Civic Center Library.

Other proposed law enforcement facility improvements have been subject to extensive cost effectiveness and feasibility studies, with major construction now expected to begin within the next two years.

Improvements to the Deer Island Correctional Facility and construction of a replacement for the Charles Street Jail are in the planning stages. Current plans call for construction of a new Jail on Deer Island, enabling recreational, medical, educational, and other facilities to be used jointly by the Jail and the Correctional Facility. Plans for renovating the Deer Island structures are being formulated in tandem with the Jail, but the scope of the project will be determined by the amount of Federal and State funding available.

A space use and feasibility study of the old and new Suffolk County Court Houses at Pemberton Square has recommended retaining and renovating both buildings, with the possible creation of 160,000 additional square feet of office and court house space while preserving the architecture of the older building, built in 1894.

Health & Hospitals

In 1968 the Public Facilities Department began work on a multi-million dollar construction and modernization program at Boston City Hospital (BCH). The full project will be completed in 1975 and cost over $56 million.

Major improvements include a 28-story nurses residence, a six story nurses education building, and a 12-story (100 apartments) doctors residence. A new five-story building is being built over Massachusetts Avenue containing the most modern outpatient facility in New England, increasing present outpatient capacity four-fold, and including a day care center and playground for visitors, as well as 8,000 square feet of commercial space. New emergency care facilities have been built and an $8 million renovation program has improved virtually every building on the hospital site. The project has been funded through city bond issues with only $3.4 million from the Federal government.

At the Long Island Chronic Disease Hospital, the Public Facilities Department has completed a $1,800,000 Dietary Center, including a new cafeteria and kitchen. Several buildings at the Mattapan Chronic Disease Hospital have been renovated, and additional improvements are planned for that facility.

Neighborhood health clinics have been planned throughout the City in cooperation with neighborhood planning groups, and with sponsorship from the area's private hospitals and medical schools. One clinic is presently under construction in Dorchester and four more will be under construction in 1974: two as part of Community School projects, and two as part of Model Cities Family Life Centers.

Parks & Recreation

The major goals of the Parks and Recreation Department have been to create more and better open space, particularly in the neighborhoods, to encourage more use of recreational facilities, and to intensify use of Boston's historical open spaces in ways compatible with their character. To these ends, improvements ranging from resurfacing of basketball courts to construction of important new facilities have been carried out at more than 80 locations throughout the city.

To extend use and decrease vandalism, floodlights have been installed at 43 sites throughout the city at a cost of more than $4 million. Nearly half a million dollars has been spent in the 429-acre Franklin Park to renovate the playhouse-in-the-park, improve the roads, create new picnic areas and a sledding hill and undertake large scale replanting. A master plan for extensive restoration of the Boston Common and Public Garden has been completed recently, and will include the repair of paths and fences, along with major replanting.

A recent innovation has been the **"Cameo Park."** Cameo Parks create an intensive play area in a small space, or within a larger recreational space. They incorporate both active and passive recreation, featuring creative uses of running water and natural wood play equipment. Each Cameo Park is unique, reflecting the design taste of the neighborhood and the multiple uses of the basic equipment.

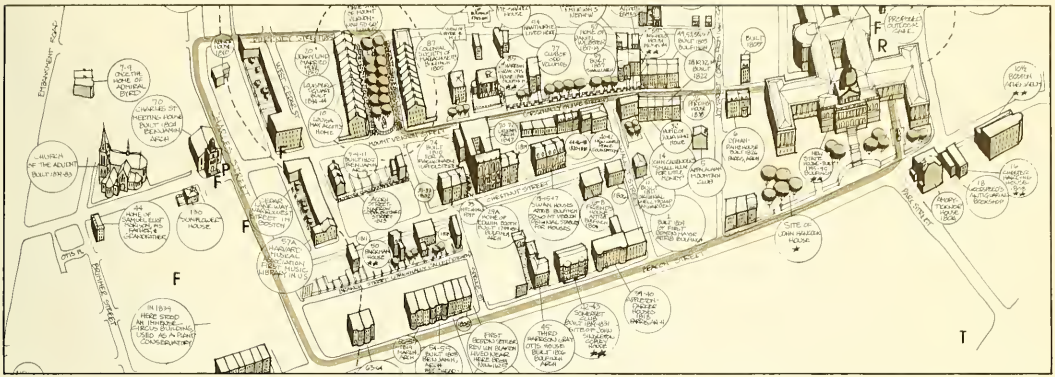
Another innovation is the **"Plantree Program,"** a project to re-forest Boston's bald spots. Contributions from individuals, block clubs, businesses and public agencies pay for the purchase and planting of a tree on a site selected by the donor and approved by the city. The Parks and Recreation Department supplies the tree and the labor at cost. More than 425 trees have been planted in Plantree, in addition to the 650 trees planted by the city annually.

Public Works

Since 1968 the Public Works Department has spent more than $28 million on improvements to City streets, sidewalks, water and sewer mains. Attempts have been made to design improvements that enhance the character of local neighborhoods, as in Beacon Hill where brick sidewalks have been retained and gas lamps are used. During the last three years a wheelchair ramp program was implemented, constructing sidewalk curb cuts and ramps in the areas of highest use by handicapped persons, such as Government Center and along Boylston Street to the Prudential Center.

Construction has begun on the central maintenance garage, a $12 million facility in the South Bay area which will provide most municipal vehicles with routine servicing and maintenance. The centralization of maintenance functions will enable the city to close down four garages, selling at least one—the Albany Street Garage.

Street lighting in Boston has been traditionally owned and maintained by the Boston Edison Company. Over the past few years, the city has begun to purchase its own street lighting system, spending $2 million through urban renewal bonds since 1969. Over the long run City ownership of lighting is more economical than leasing, and it permits greater flexibility in experimenting with new types of equipment and in designing lighting programs for special needs. It will, for example, enable the city to place a specially designed mix of vehicular and pedestrian lights in the Mattapan Square shopping area, and to install sodium vapor lights in ten other business districts.



The Bicentennial

There is no question that the Bicentennial will bring large numbers of visitors to Boston. Because significant Federal or State Aid has not been made available, Boston is developing Bicentennial-related activities throughout the City, with an emphasis on the points of historic interest in the residential neighborhoods. In this way **the Office for the Boston Bicentennial can take advantage of the capital improvements already planned, and any benefits from the Bicentennial celebration will be dispersed throughout the City.**

The Public Facilities Department has recently undertaken a feasibility study on the development of a Visitor Hospitality Center in City Hall. If implemented, the Center would be designed so that it could become permanent if the demand remained high, or be completely removed from City Hall and its components recycled into other uses.

The planning procedure which results in the creation of the Boston Capital Improvements Program is as diverse as the neighborhoods involved. No major capital improvement is undertaken by the city without critical input and considerable support from the community affected. The following case study illustrates this interaction between community and city hall in one of Boston's distinctly independent residential neighborhoods, East Boston.

THE NEIGHBORHOOD CAPITAL IMPROVEMENT PROGRAM

in East Boston

Planning the Capital Improvements Program involves more than mobilizing and meshing the efforts of the planners, architects, engineers, draftsmen and other City employees. In addition to the work of downtown professionals—which tends to be quiet and far from the public eye—all plans for Capital Improvements are subject to the scrutiny, advice, dissent and review of local residents: residents for whom the facility is being designed and who will have to live with the finished product long after the professionals have gone on to other projects.

Revitalizing local neighborhoods means planning new facilities with residents as well as for them. Participation of local residents demystifies an important urban process. In the short run it creates delays in construction schedules, adds yet another layer of meetings and decision making, and engages a healthy amount of manpower over an extended period of time. In the long run, however, good working relationships are developed between the community and the City, and completed projects tend to be more accepted and more used by the community.

East Boston is a good example of the rewards and the frustrations of neighborhood participation in the capital improvement planning process. Created from a massive land fill process linking together five islands in Boston Harbor,

East Boston covers a peninsula which extends into Boston Harbor on the extreme north east corner of the City. It is geographically separate from the rest of Boston, accessible only by the Sumner, Callahan and MBTA Tunnels crossing under the harbor.

Aside from its geographic isolation, the most marked physical characteristic of East Boston is the presence of Logan International Airport, a sprawling jetport serving the entire Boston and New England region. Logan occupies two-thirds of the land of East Boston, about 2,400 acres, and continues to grow by fill to seaward and by purchase and takings to landward. The airport abuts several residential areas, creating noise pollution problems on a massive scale, and it generates large amounts of automobile and bus traffic along the two major divided highways that knife through the community: the East Boston Expressway (U.S. #1) and Bennington Street.

In spite of its physical and geographic liabilities, East Boston continues to be a thriving community for about 39,000 people. Settled by the Irish beginning in the 1840's and later by Scandinavians, the area became dominated by Italian immigrants following the First World War. That domination continues today and first and second generation Italians and their sons and daughters comprise the majority of East Boston's population.

The edges of the neighborhood not abutting the airport are dominated by aged seaport facilities, most unused for many years. East Boston's last and remaining heavy industry—ship repairing—is housed in these waterfront structures. Small manufacturing plants are scattered throughout the area, but they too are only a shadow of the busy past, gone for several decades.

Residences are built close together and open space, particularly recreational space, is at a premium. A Boston Redevelopment Authority study in 1971 found less than 100 acres of open space in East Boston. This amounts to about 2.5 per 1,000 residents, or less than half of the normal Boston rate of 5.4 acres per 1,000.

Following the major airport expansion at the end of the 1940's East Boston experienced a marked population decline, from 51,000 in 1950 to 39,000 twenty years later, but there are indications that the population has stabilized since the last census. Continuous community organization efforts have been underway for the last few years and East Boston is the only community in the City that can boast three local newspapers.

There have been other signs of resurgence. In 1964 a new federally subsidized private housing development, Brandywine Village, was built for 500 low and moderate income families. More recently an extensive community battle was waged against construction of a new 10,000 foot runway at Logan Airport. After months of organizing, rallies and hard work, the community was victorious and expansion plans were suspended in 1971. Local residents have clearly decided that East Boston is a good place to live and well worth fighting for.

After two decades of virtual neglect by City Government, East Boston became the focal point of revitalization efforts in 1968 as part of a new City-wide policy. The neighborhoods, where people lived, were to be the target of large scale renewal and capital improvement projects. Basic policies and planning objectives were defined for each neighborhood, and these objectives were translated into specific strategies calling for the development of a variety of capital projects.

In East Boston the objectives were formulated within an overall policy framework: East Boston would continue to be a residential area; Logan Airport expansion in the direction of the community would be contained. From this other objectives developed: the population was to be stabilized and its residential capacity increased.

Open space – primarily recreational open space – would be reclaimed. This included both extensive renovations of existing parks and playgrounds and the development of new recreational facilities.

The close knit community structure was to be encouraged and preserved, and the neighborhood schools were to be improved or replaced with modern facilities. All school construction and renovation was to include sound proofing materials to lessen distraction from the community's noisy neighbor. Finally, to strengthen residential areas and stimulate home improvements, a street and sidewalk improvement program was added to the list.

Formulating objectives and accomplishing them are entirely different matters. Central to the White Administration's promise to revitalize the neighborhoods was the pledge to decentralize some of City Hall's administrative functions, resulting in the creation of Little City Halls in every Boston neighborhood. Neighborhood councils, called Local Area Councils (LAC's), were organized in conjunction with the Little City Halls. The local councils were to funnel citizen complaints, review municipal programs and projects aimed at the neighborhood, organize community opinion on local issues and take action when appropriate.

The East Boston Local Area Council is really a set of councils with overlapping memberships. Councils are established in response to priority concerns and hold weekly meetings, open to all members of the community. Officers are elected annually in local elections open to residents over the age of fourteen, attending at least two meetings in the past year.

Capital improvements recommendations are under the jurisdiction of the East Boston Master Planning and Land Use Advisory Council (formerly two councils, merged together in 1971). Other community groups such as the East Boston APAC (Area Planning and Action Council – the OEO anti-poverty agency) channel their input on capital improvements through this Local Advisory Council. The council receives administrative and clerical support from the Little City Hall and planning assistance from the Boston Redevelopment Authority District Planner.

No formal procedures have been established for neighborhood involvement in planning capital improvements, but a general

format has emerged, mutually satisfying the East Boston Local Advisory Council, the Little City Hall, the Public Facilities Department, the Boston Redevelopment Authority District Planner, and the other city departments and consultants involved. All proposed municipal projects are brought to the council's attention by the District Planner, the Public Facilities Department, or the Little City Hall manager. A subcommittee is formed, charged with the responsibility of reviewing all phases of the project in detail, and mobilizing neighborhood participation for the review.

Since 1968 all capital improvement projects planned by the City for East Boston have been subject to this process and the results have been encouraging. All final decisions relating to the design, location and scope of the project have been reached by a mutual consensus of the residents, Public Facilities Department and the other involved parties. There have been no permanently damaging battles (although there have been many long and heated arguments) on the way to consensus, and the residents and the city officials and planners have developed mutual trust and respect.

Even more important, the council has made a number of substantive changes in the city's plans. In the proposed Barnes Middle School, the site plan was altered, shifting the location of the school and recreational facilities. Changes were also made in the design of the school and in the proposed curriculum. For the new Paris Street swimming pool the neighborhood requested and received an Olympic size pool instead of the smaller one Parks & Recreation had planned.

Familiarity with the City's plans has led to meaningful neighborhood involvement in the planning process. In all cases the East Boston District Planner provides residents with technical assistance in the analysis of plans and the formulation of alternatives. The Local Advisory Council review process has been so successful that the community has demanded and received the opportunity to review private development proposals as well as municipal ones. In fact, virtually all major construction projects built in East Boston have been subject to a neighborhood review process. Certainly no municipal projects could be built without a consensus between the City and the neighborhood.

The shift in city policy and the development of a meaningful local review process has substantially affected municipal capital investment in East Boston in the last five years. This period has witnessed a dramatic move away from the City's past neglect to the implementation of deliberate plans with specific objectives and real accomplishments. The expansion of recreational opportunities has been highlighted by the construction of the Olympic-sized Paris Street swimming pool and a forthcoming $1 million park, including a sheltered street hockey rink in a renovated structure at Jeffries Point. Floodlights have been installed at East Boston Stadium, American Legion Playground and are scheduled for the Noyes Playground later this year. Smaller renovations including basketball courts, resurfacing and fences, have been completed at the Paris Street Gym, McLean Playground, Souza Park, Brophy Park, and the Sumner and Lamson Playground.

Extensive sidewalk and street improvements have been done at Jeffries Point, Central Square and locations throughout East Boston. (As was hoped, a significant amount of home repairs has occurred in the areas most heavily improved). Additional capital expenditures include remodeling of the District 7 Police Station and sewer and water main improvements. The old City Health Building and Hospital Relief Station have been remodeled and renovated into community health and mental health centers, respectively.

The single most important improvement, however, is the Barnes Middle School, where ground-breaking took place in January, 1974. The school, being built on the waterfront, will have spaces for 1,000 students and recreational and educational facilities open to all community residents. It will cost $12.6 million and is scheduled to open in September 1975.

Major renovations at East Boston High School should be under design within the next two years. The work at the high school will include overall modernization and soundproofing of the building. Another water front park is being planned on Sumner Street, adjacent to the Maverick Square Housing Project. A quarter of a million dollar loan order for the park has already been approved by the City Council and application has been made for Federal matching funds.

Much work remains to be done to make of East Boston the kind of residential neighborhood everyone would like it to be. However, residents have been encouraged by the fact that the job is well underway and by the City's obvious interest in cooperating with them in the planning of their community's future.

The rapport which has developed between residents and City planners and the enthusiastic spirit which infuses the Capital Improvements planning project makes East Boston a model for the entire City.

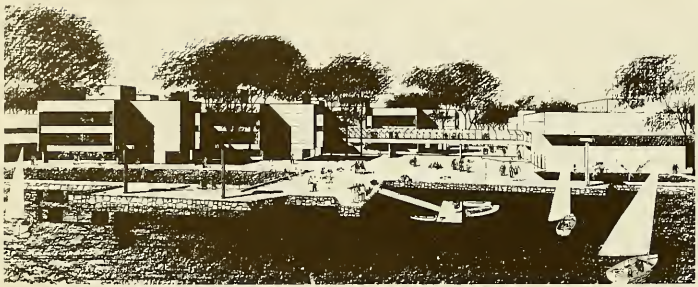
Community Schools

It is anticipated that these schools will help stabilize neighborhood populations as well as provide an avenue for increased parent involvement in the educational process. The schools have already demonstrated their ability to stimulate more efficient use of municipal facilities and have furnished many neighborhoods with new swimming pools, basketball courts and gymnasiums.

Ten community schools are currently in operation and five more are under construction, with three to four more scheduled to begin construction this year.

Since 1968, almost every elementary and middle school built has been a Community School. These schools are designed as both educational centers and community facilities. They are open afternoons and evenings after school hours and on weekends, twelve months a year. They are open to all community residents for a variety of uses including swimming, day care, theater arts, cultural activities and classes ranging from automobile repairing and bartending to child rearing and knitting. Community schools are, in short, available for all purposes within the imagination of local residents and the scope of the facility.

Community school activities are generated by local elected councils who assume responsibility for directing the program and hiring staff. In conjunction with the Public Facilities Department, the Councils coordinate use of the facility.



BOSTCO

Since 1969 the Public Facilities Department has been involved in the development of the Boston Standard Component System (BOSTCO), an effort to apply sophisticated systems building techniques to the construction of schools. Boston is one of the first cities to use a systems approach for municipal construction and the results are encouraging: higher consistent quality, reduced design and construction time, substantial dollar savings with increased control over all phases of design and construction. Public facilities recently received a Progressive Architecture Award in Applied Research for development of this program.

BOSTCO uses pre-engineered systems which are standardized for the design and construction of all schools in the current building program. These systems include: heating, cooling and ventilation, structure, electrical lighting and power, plumbing, and a sophisticated system of partitions and ceilings providing interior space division. All systems have been designed specifically to meet the requirements of school construction in Boston and are the product of a continuing research and development program. Working with these basic components Public Facilities can plan schools that reflect diversity in design as well as diversity in educational program and neighborhood site requirements.

So far experience has demonstrated, through the construction of the Agassiz Elementary and Grover Cleveland Middle School addition, that construction time can be halved, with a dollar savings of 10-15% over conventional methods. The BOSTCO System is being used for all schools under construction, as well as those in the planning and design stage.

Monitoring Maintenance Systems

The rapid construction of new elementary and high schools furnished with millions of dollars of sophisticated equipment systems, including central air conditioning and heating plants, full service cafeterias and extensive physical education facilities, have created problems of maintenance and repair unknown in previous school buildings. In some cases, the new physical plants require levels of knowledge and experience never before needed for ordinary maintenance work; more often the sheer size of the plant with its unseen intricacies and sensitive equipment are simply too great a load for an overburdened school maintenance and janitorial staff.

A computerized monitoring system has been developed to assist on-site staff with routine maintenance, repairs, locating problems in the system as well as regulating the basic functions of the physical plant. The computer scans all of a building's systems 24 hours daily, checking for problems, correcting them when possible, notifying maintenance staff when necessary. Further, the systems can be programmed to perform routine, even complex actions automatically. For example, the building's heat and lights go on and off at predetermined times (and at predetermined levels) during the day, saving maintenance staff the task of turning off all lights at the end of the day and arriving early to turn on the heat or air conditioning. This conserves not only manpower, but prevents misuse of valuable fuel and electricity. It is estimated that the capital investment needed to install such a monitoring system in a typical school—$100,000–$125,000—is recouped in 3 years by fuel savings alone. Environmental systems function more efficiently and more comfortably and maintenance problems are greatly reduced. A central computer and teletype operation in City Hall serve as a back-up system when local monitors or their operators fail.

The system is fully in use at the new English High School and plans are under way to install it in seven schools under construction. Maintenance monitoring systems also have been installed at City Hall. Other municipal buildings, including the new facilities under construction at Boston City Hospital, will soon be plugged into this operation.

Vandalism & Security

As the number of new municipal facilities increases, the problems of vandalism and break-ins become more serious. It is estimated that school buildings alone suffer over a million dollars worth of damage yearly. **In an attempt to produce some practical answers to vandalism and security problems, two studies have been contracted by the Public Facilities Department.**

The first study is being carried out by the Harvard School of Education, funded from a grant to the City by the Educational Facilities Laboratory. Drawing upon interviews with school personnel, students, police and neighborhood residents as well as the experience of successful programs in other cities, the study will look into the causes of school vandalism. It will develop preventative approaches including design changes that encourage more intensive use of school facilities and administrative changes emphasizing community and student involvement in planning programs and schools. The study will include several controlled experiments in conjunction with new school construction.

The second study will focus upon the development of alternative security systems. It will investigate the feasibility of a central alarm system utilizing radio equipped security patrol cars, review the latest electronic and mechanical equipment used for building security and look into the desireability of emergency power supply systems for all municipal buildings. Estimates will be made on the cost, manpower and administrative changes needed to implement a modern security system. Special attention will be given to tying in security proposals to the City Hall central computer system used for monitoring maintenance of municipal buildings. The study is being conducted for the Public Facilities Department by a local engineering firm, funded by a grant from the Federal Law Enforcement Assistance Administration.

Recycling Buildings and Sharing Sites

The greatest obstacle to building a new public facility is not money, but space. Assembling an adequate site within the dense development of an urban environment is difficult in itself. Avoiding relocating residents or taking taxable properties off the rolls complicates the process even more.

Boston is taking a new look at ways to use sites and buildings. One approach that has been successful is recycling old buildings for new uses. For example, Boston has converted a bowling alley and a car dealership into two new elementary schools—the Haley School and the Hernandez School. At the City's urging the State recently approved a bill to extend eligibility for school building reimbursement to cover buildings that were not school buildings prior to renovation.

On the other side, new public facilities often replace old buildings that are obsolete but not structurally unsound. The City has begun to recycle these structures back onto the market by using Public Facilities as a broker, selling the surplus buildings to buyers in the private sector. This recycling technique keeps attractive and historic buildings in continual use, while strengthening the City's tax base.

The Harvard Elementary School in Charlestown and the old Bowdoin School on Beacon Hill will be sold to developers for elderly housing. A former police station on Boylston Street now houses the Institute for Contemporary Art.

Several cities have been experimenting with site sharing by public and private uses and under a new "Condominium Law" Boston will be trying this approach in two projects: the Quincy School in South Cove, where elderly housing and a public health clinic will share an elementary school site, and the Battery Wharf Fire Station, where Harbor and Local Fire Companies will share a recycled coal bin with private commercial space.

One of the lessons learned from the Urban Renewal experience is that a City is far more livable when it preserves and builds up on what it already has. All of Boston's new approaches are guided by the idea of conserving and enriching each neighborhood.

FUNDING SOURCES AND THE PROJECTED PROGRAM

The capital construction program of the City of Boston is financed in three ways: bond issues, State or Federal aid and cash revenue funds.

Bond Issues

The majority of City capital projects are financed through long term (5–30 year) loans secured through the issuing of bonds.

The debt limit, established by State law, places a ceiling amount of money that a City may borrow for most capital expenditures. The debt limit for Massachusetts cities is from 2.5% to 5% of equalized valuation. The City can borrow up to the 2.5% level without obtaining any approval, but each loan authorization from 2.5% up to 5% must be approved by the Emergency Finance Board. Boston's current 5% debt limit is $105 million.

The City's borrowing "inside" the debt limit has tended in recent years to be confined to Public Works projects, land acquisitions, major equipment purchases, and extraordinary renovations to public buildings.

Borrowing "outside" the debt limit is regulated both by the general law and by various special statues. School construction funds, which are a major portion of the capital budget, are borrowed outside the debt limit under a state law dating from 1948. School construction funding authorizations since 1962, representing present and future project commitments, now equal $329 million, of which $300 million was borrowed under the 1948 laws, $24 million under another special statute, and about $5 million were borrowed inside the debt limit.

Urban renewal bonds are issued by the City under a debt limit of 6% of equalized valuation, or $126 million. Parking garages are built under a 1946 statute, amended over the years, to allow a total of $40 million for parking projects. This limit represents a total dollar amount and is not regenerated as the parking bonds are retired.

When the Public Facilities Department was created in 1966, it was given special authority to obtain $230 million worth of loans outside the debt limit. The City Council authorized $115 million of this between 1966 and 1973. These funds may be expended for an extremely broad category of public purposes.

Since 1966, construction of public buildings, which was formerly done "inside" the debt limit, has been financed mainly by these Public Facilities loans. The Parks Department Capital Improvements Program is also funded largely by Public Facilities loans. But Public Facilities Department loans are not used for Public Works projects—such as street and sidewalk reconstruction—unless they are done as part of a Public Facilities Department project.

Federal and State Aid

Federal and State aid to capital improvements projects comes in a number of forms. The majority of Federal aid programs for which Boston is a recipient are State administered. Bureau of Outdoor Recreation Grants which provide park funding, Urban Systems monies which finance highway construction and Law Enforcement Assistance Administration funds which are helping to modernize and update Boston's correctional and court facilities are examples of State administered grants. However, Urban Renewal and Model Cities program monies come to the City directly from the Federal Government.

The State provides and regulates a larger proportion of capital construction funding than the Federal Government. A major portion of the State aid is allocated to school construction reimbursements. In 1948 the State paid 20% of school construction costs paid in annual installments over the life of the bonds. Over the years it has increased and Boston now receives up to 65% of project cost plus the interest on bonds for schools that help eliminate racial imbalance.

In theory State aid is also available to reimburse the City for half of the City's Urban Renewal project costs, but inadequate appropriations combined with the refusal to reimburse necessary increases in the City's matching expenditures have kept reimbursements low — approximately $2 million a year in recent years.

In another program titled "Chapter 90" the State reimburses the City for work done on State roads within city boundaries. These receipts average about $500,000 a year.

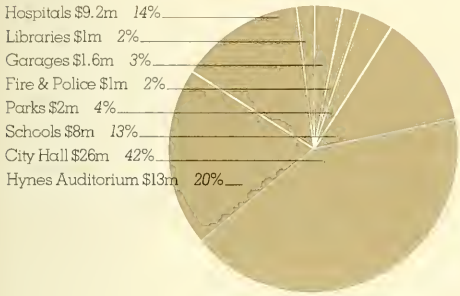
Aid funds are not without their regulatory drawbacks. School aid illustrates this. The School Buildings Assistance Bureau, which administers the aid program, requires four separate approvals for each school project. Then the State Board of Education must approve, also; without the State Board of Education approval, the City cannot finance even its own 35% share of the loan. Recently a State environmental impact review was added to the list of necessary approvals. At any point during this process, a project may have to be revised to obtain approval.

Cash Funding

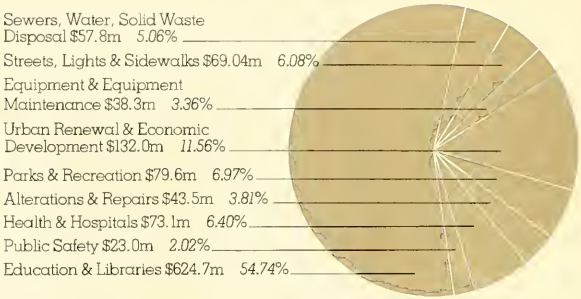
Nearly all departments generate some income from their activities, most of which goes into the general fund. Some departments have revenues that are specifically reserved for debt service payment. Cash surpluses from these revenues can be appropriated by City Council for direct capital expenditures. In addition, cash revenue from most sales of city property are legally reserved for capital items.

Trust funds are also available for some capital purposes. For example, The Parkman Fund may be used only for maintenance and improvement of the Boston Common, the Public Garden, and other parks in existence as of 1877. The George Robert White Fund, reserved for worthy and extraordinary improvements, has been used recently for modernization of health centers originally built by the White Fund, and for the White Schoolboy Stadium.

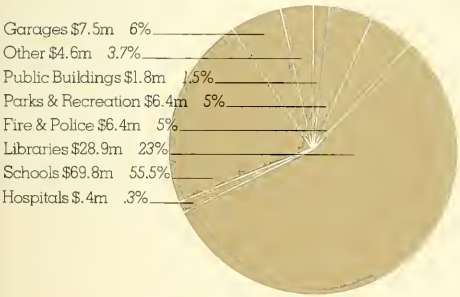
CAPITAL OUTLAY BY CATEGORY
1960–67
Total Capital Outlay $61.8m



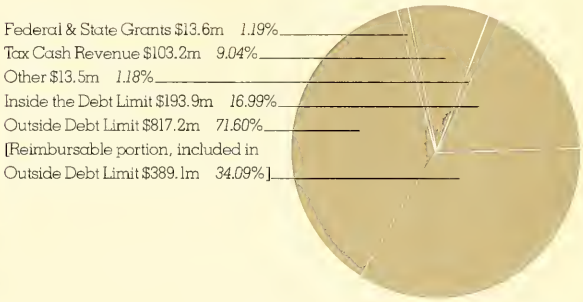
CAPITAL OUTLAY BY CATEGORY
1973–82
Total Capital Outlay: $1,141.4 m

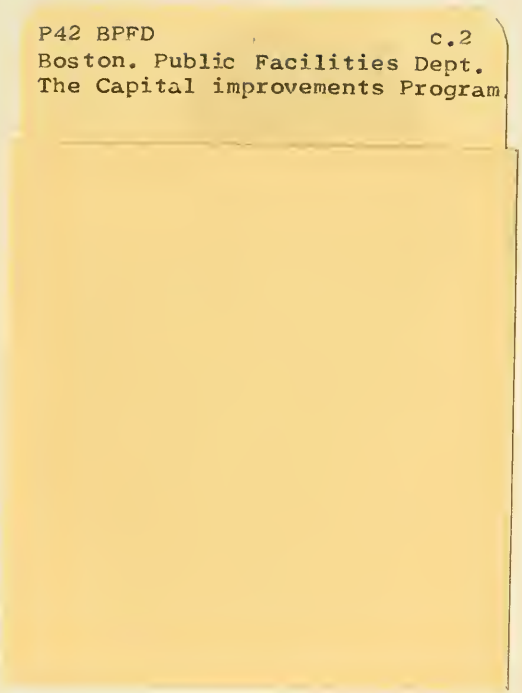

Sewers, Water, Solid Waste Disposal $57.8m 5.06%
Streets, Lights & Sidewalks $69.04m 6.08%
Equipment & Equipment Maintenance $38.3m 3.36%
Urban Renewal & Economic Development $132.0m 11.56%
Parks & Recreation $79.6m 6.97%
Alterations & Repairs $43.5m 3.81%
Health & Hospitals $73.1m 6.40%
Public Safety $23.0m 2.02%
Education & Libraries $624.7m 54.74%

CAPITAL OUTLAY BY CATEGORY
1968–72
Total Capital Outlay $125.8m



CAPITAL OUTLAY BY FUNDING SOURCE
1973–82
Total Funding Sources: $1,141.4 m


Federal & State Grants $13.6m 1.19%
Tax Cash Revenue $103.2m 9.04%
Other $13.5m 1.18%
Inside the Debt Limit $193.9m 16.99%
Outside Debt Limit $817.2m 71.60%
[Reimbursable portion, included in Outside Debt Limit $389.1m 34.09%]



Every year the Public Facilities Department compiles a Ten Year Program for Capital Improvements. Based on the review of specific projects proposed for each neighborhood, this Program outlines the funding sources and expenditures anticipated for each major type of work. The accompanying table illustrates the type of Program projected for the next ten years.

NEW FACILITIES
1968-1974

Elementary Schools

Agassiz School
Bradford Annex
Cannon School
Haley School
Hennigan School
Hernandez School
Holland School
Jennie L. Barron School
Joseph Curley School
Kent School
Lee School
Marshall School
McCormack School
Ohrenberger School
Richard Murphy School
Trotter School
Tynan School

Middle Schools

Grover Cleveland School

High Schools

Copley Square High School
Dorchester High Annex #2
English High School
L Street Annex (So. Boston High)

Libraries

Boston Library Addition
Brighton Library
Charlestown Library
Fields Corner Library
Grove Hall Library
South End Library
West End Library

Fire Stations

Back Bay Fire Station
Blue Hill Avenue Fire Station
Charlestown Fire Station
Dudley-Harrison Fire Station
Hyde Park Fire Station
South Cove Fire Station

Police Stations

Back Bay Police Station
District I Police Station
Fields Corner Police Station
Police Academy
Roxbury Civic Police Station
West Roxbury Police Station

Health Facilities

City Hospital, South Block

Parking Garages

Government Center Parking Garage

Recreation Buildings

Archdale Park Recreation Building
Columbia Point Recreation Building
Draper Playground Pool
Fields Corner Neighborhood Center
Gallivan Boulevard Recreation Building
Healy Pool
Hynes Playground Pavillion
Jeffries Point Recreation Building
L Street Recreation Center
Mason School Pool
Mission Hill Recreation Building
Orchard Park Recreation Building
Paris Street Pool
Washington Park Recreation Center

Other

Boston Business School
Central Kitchen
Elma Lewis Comfort Station, Franklin Park
Mt. Hope Cemetery
Roxbury Civic Center Courthouse
School Warehouse

New and Improved Parks

Almont Street Playground
American Legion Playground
Back Bay Fens—Victory Gardens
Bay Village Park
Billings Field
Boston Common
Bradford Street Playground
Brophy Park
Carleton Street Playground
Carter Playground
Cassidy Playground
Ceylon Street Playground
Charter Street Playground
Christopher Lee Playground
Columbus Park
Commonwealth Avenue Mall
Connally Playground
Copley Square
Copp's Hill Terrace
Cornwall Playground
Cronin Playground
Cutillo Playground
Dartmouth Street Mall
DeFillippo Playground
Doherty Playground
Dorchester Park
Draper Playground
East Boston Stadium
Erie-Ellington Playground
Eustis (Clifford) Playground
Fallon Field
Father Buckley Playground
Franklin Park
Garvey Playground
Gibson-Doherty Playground (Town Field)
Hannon Playground
Healy Field
Highland Park
Hobart Street Cameo Park
Howes Playground
Hynes Playground
Joseph Lee Playground
L Street Bathing Beach
Lambert Avenue Playground
Little Scobie Park
Mary Hemenway Playground
McCarthy Playground
McConnell Park
McKinney Playground
McLaughlin Playground (Parker Hill Playground)
McLean Playground
Mission Hill Playground
Mozart Street Play Area
Mt. Pleasant Street Park
Myrtle Street Cameo Park
North End Park
Noyes Playground
Oak Square Cameo Park
Orchard Park
Paris Street Playground
Parkman Playground
Portsmouth Street Playground
Public Garden
Quincy-Stanley Playground
Readville Playground
Ringer Playground
Ripley Playground
Roberts Playground
Rogers Park
Ronan Park
Ross Playground
Rotch Playground
Savin Hill Park
Smith Playground
Smith Pond Playground
Souza Park
Summer and Lamson Playground
Sweeney Play Area
Thetford Avenue Playground
Thomas Park
Walker Playground
Walsh Playground
Winthrop Playground

PUBLIC FACILITIES COMMISSION

CAPITAL IMPROVEMENT PROGRAM 1973-82

Department	Project
EDUCATION & LIBRARIES	1. Schools: New construction, Major renovations, Equipment and Furnishings 2. Libraries: New Facilities, Restoration
PUBLIC SAFETY	1. Fire Department: New Facilities, Renovations 2. Police Department: New Facilities, Renovations 3. Suffolk County Courthouse
HEALTH & HOSPITALS	1. Boston City Hospital: Phases I & II, and Alterations & Repairs
PARKS & RECREATION	1. Development of Parks and Play Equipment 2. Acquisition of Land 3. Cemetery Division
URBAN DEVELOPMENT	1. Economic Development & Industrial Commission 2. Urban Renewal
EQUIPMENT & EQUIPMENT MAINTENANCE	1. Departmental Equipment 2. Central Maintenance Facility
STREETS & SIDEWALKS	1. Public Ways, Sidewalks, Streetlights, & Bridges
SEWERS, WATER, & SOLID WASTE DISPOSAL	1. Incinerator 2. Water Mains 3. Sewers
ALTERATIONS & REPAIRS	1. Public Facilities Dept. General Program 2. Renovations to Municipal Buildings (unallocated)

Total Estimated Cost	Previous Appropriations	1973 Allocations	Proposed 1974-82 Allocations
$613,711,000	$48,061,000	$205,200,000	$360,450,000
11,000,000	700,000	1,000,000	9,300,000
14,735,000	3,215,000	1,660,000	9,860,000
4,750,000	1,300,000	660,000	2,790,000
3,550,000	450,000	100,000	3,000,000
73,100,000	56,600,000	11,000,000	5,500,000
64,710,200	7,168,800	3,500,000	54,041,400
13,936,200	250,000	218,100	13,468,100
950,000	————	70,000	880,000
7,000,000	————	7,000,000	————
125,000,000	35,322,900	23,000,000	66,677,100
27,660,000	————	150,000	27,510,000
10,600,000	8,600,000	2,000,000	————
69,419,679	419,679	5,650,000	63,350,000
20,000,000	————	————	20,000,000
15,000,000	913,500	600,000	13,486,500
22,757,000	1,650,000	————	21,107,000
41,000,000	————	3,709,000	37,291,000
2,500,000	————	1,000,000	1,500,000
	$164,650,879	$266,517,100	$710,211,100

Total $1,141,379,079

This report was prepared by the Public Facilities Department to familiarize more people with Boston's Capital Improvements Program and the process by which it is developed. At the request of the Mayor, the Public Facilities Department is preparing additional reports on the capital improvements completed and planned in each neighborhood. This information will enable residents of Boston to participate more actively in the planning of future projects for their communities.

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